

# MEDARE: Organisation, Working Groups and the data and metadata portal

by Manola Brunet

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# outline

- The WMO/MEDARE Initiative and its goals
- MEDARE organisation and WGs
- The MEDARE web portal
- The MEDARE data and metadata infrastructures

# The WMO/MEDARE Initiative and its goals

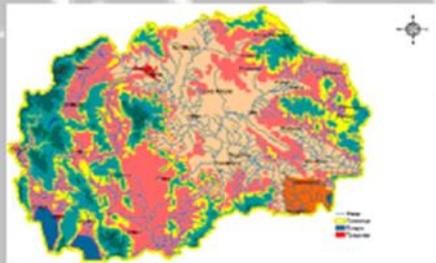
- MEDARE is a joint-WMO effort whose common goals being the enhancement of climate data availability, accessibility & traceability over the Mediterranean, which implies:
  - > Carrying out specific DARE projects at national and other spatial scales
  - > Capacity development on integrated DARE procedures and methods (from data transfer into digital format to time-series QC and homogenisation)
  - > Raising awareness on the need for DARE and promoting a new culture of data and knowledge sharing
- The MEDARE recipe: bringing together scientists from NMHS & Academia to exchange their experiences (both theoretical and operational) to support DARE activities
- Non-regularly-funded WMO project, run on a volunteer basis with the support of one active organisation in the field: the C3/URV
- Endorsed by WMO EC-60 (June, 2008) and quoted by GFCS (2013) as one of DARE Initiatives to support

# The WMO/MEDARE Initiative and its goals



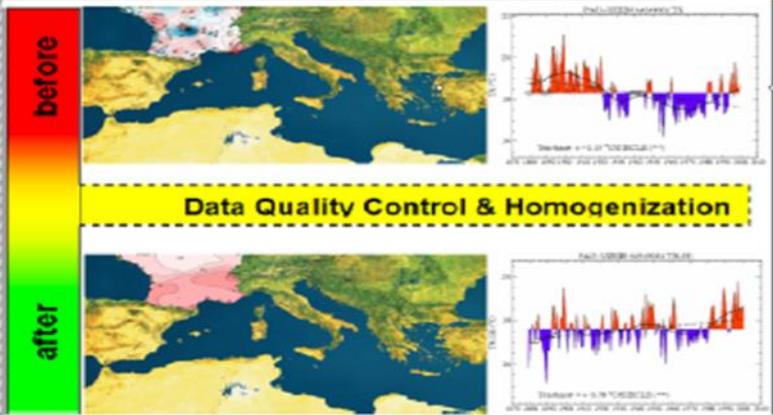
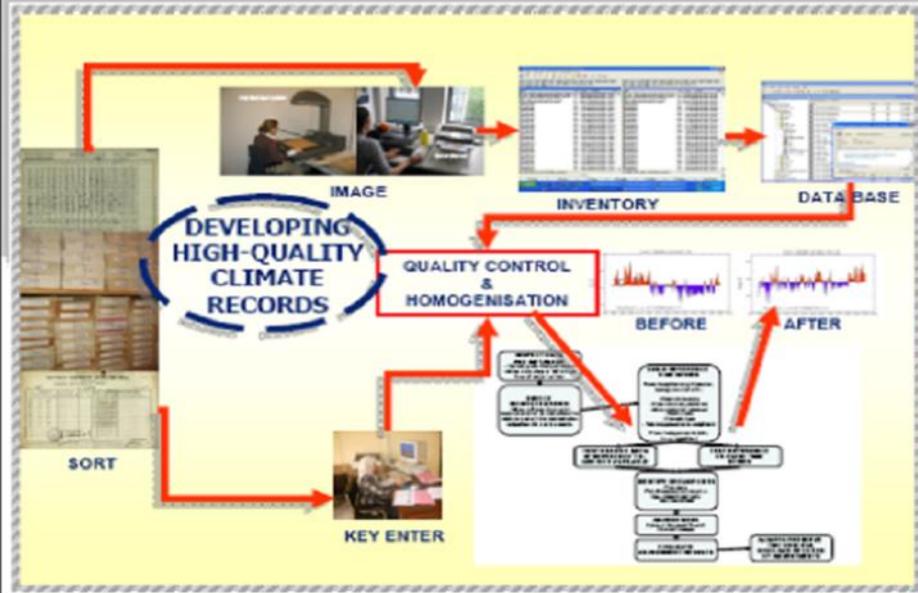
First Meeting of the INDARE Steering Committee, Geneva, 29 Sep and 1 Oct 2014

# The WMO/MEDARE Initiative and its goals



DARE array of procedures

R&D on DARE



# MEDARE organisation and WGs

- MEDARE organisation:
  - > The Steering Group
  - > The MEDARE Community
- MEDARE Community is composed of most of the Med NMHS (23) and other research centres & organisations (11), counting on about 100 members
- The Steering Group works (2 co-chairs and 9 members), a rotating team to allow all MEDARE members (countries) to be part of the system
- The 2nd SG is composed of:
- Co-chairs:
  - > Manola Brunet (C3/URV) & Serhat Sensoy (TSMS)
- Members:
  - > Victor Venema (University of Bonn)
  - > Athanasios Sarantopoulos (Greece NMHS)
  - > Fatima Elguelai (Morocco NMHS)
  - > Khalid Elfadli (Lybia NMHS)
  - > Yolanda Luna (Spain NMHS)
  - > Janja Milkovic (Croatia NMHS)
  - > Djamel Boucherf (Algeria NMHS)
  - > Mesut Demircan (Turkey NMHS)
  - > Marius Theophilou (Cyprus NMHS)



# MEDARE organisation and Working Groups (2)

## 4 working groups (WG):

- WG1: Inventorying/assessing/approaching old material sources and holders
- WG2: DARE techniques and procedures (including digitization)
- WG3: Approaches on best practices for quality controlling and homogenizing specific climate variables
- WG4: Promotional activities, bringing MEDARE to the wider scientific and other communities

## Contributed by:

- WG1:
  - > Most of NMHS
  - > Led by C3/URV and contributed by EURO4M project
  - > Coordination with other initiatives to avoid duplication
- WG2:
  - > Manual key entry at the national and regional scales
  - > OCR testing
- WG3:
  - > In connexion with COST HOME
  - > C3 contributions to QC (RClimDex-extraQC) and to homogenisation (ACMANT and HOMER)
  - > Training activities on time-series QC and homogenisation
- WG4:
  - > Many things done from posters to brochures to conferences publicising

# MEDARE organisation and Working Groups (2)

**WMO  
MEDARE  
initiative**



L'Initiative de l'OMM relative au sauvetage de données dans le bassin de la Méditerranée (MEDiterranean DAta REscue)

## MEDARE

**EXPOSE:**

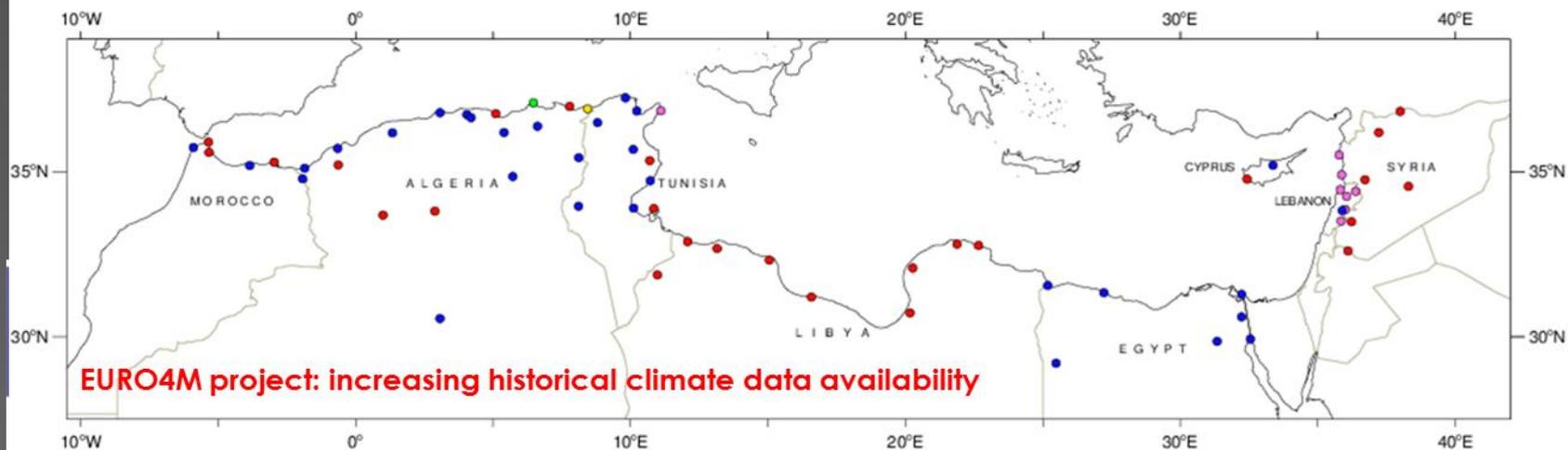
La riche héritage de données climatologiques est encore largement sous exploité, en dépit des efforts déployés dans le passé pour suivre consciencieusement l'atmosphère dans le bassin méditerranéen et actuellement le besoin urgent de développer de longues séries climatologiques fiables et de grande qualité afin de mieux comprendre, détecter, prévoir et atténuer la variabilité et le changement climatiques et leurs impacts sur les systèmes socio-économiques fragiles de la région Méditerranéenne. De tels jeux de données ne sont pas seulement d'une immense valeur scientifique, ils offrent aussi d'ultimes avantages politiques, sociaux et économiques, et ils sont nécessaires dans le but de :

- Placer les événements extrêmes dans un contexte à long terme permettant, par exemple, des évaluations plus exactes de leurs périodes de retour

- Améliorer nos connaissances sur les mesures instrumentales de la variabilité et du changement climatiques, et les facteurs possibles de ces changements sur la région
- Contribuer à l'avancement de la détection des changements climatiques et aux études associées
- Développer des scénari sur les changements climatiques en combinant
- Les données climatiques instrumentales avec les projections des simulations des Modèles Climatiques Régionaux (RCM)
- La fourniture des données en entrée pour étendre la réanalyse dans le passé (i.e. réanalyses avant 1948)
- La calibration des données proxy (naturelle/documentaire) pour étendre l'historique climatique d'un pays/région
- La calibration des estimations par satellite des variables de surface



## EURO4M covered sites



●  $T_{min} / T_{max}$ , Precip. & SLP

●  $T_{min} / T_{max}$  & Precip.

●  $T_{min} / T_{max}$

● Precip.

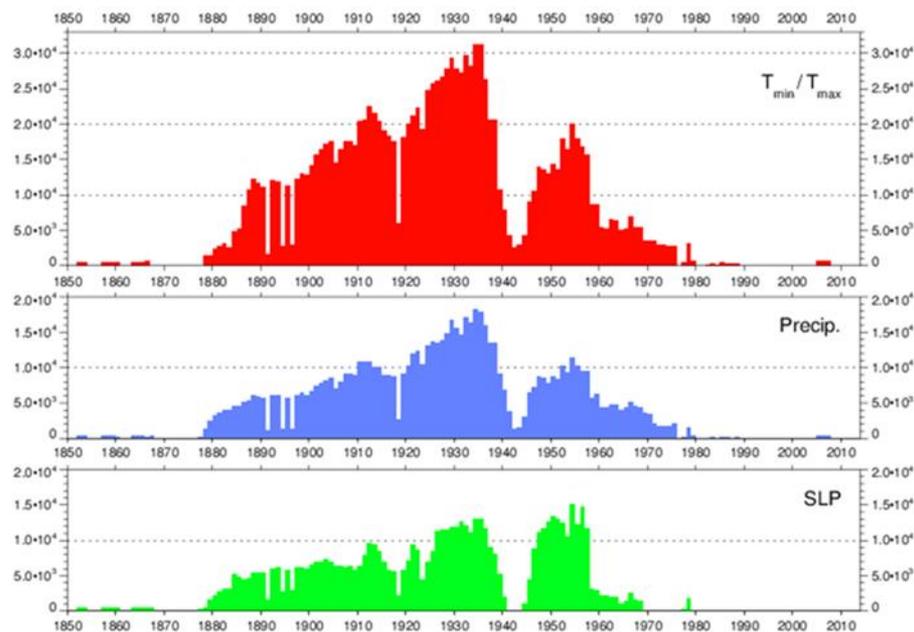
● SLP

### EXPOSE:

Le riche héritage de données climatologiques est encore largement sous exploité, en dépit des efforts déployés dans le passé pour suivre consciencieusement l'atmosphère dans le bassin méditerranéen et actuellement besoin urgent de développer de longues séries climatologiques fiables et de grande qualité afin de mieux comprendre, détecter, prévoir et atténuer la variabilité du changement climatique et leurs impacts sur les systèmes socio-économiques fragiles de la région Méditerranéenne. De tels jeux de données ne sont pas seulement d'une immense valeur scientifique ils offrent aussi d'ultimes avantages politiques, sociaux, économiques, et ils sont nécessaires dans le but de :

- Placer les événements extrêmes dans un contexte long terme permettant, par exemple, des évaluations plus exactes de leurs périodes de retour

### Data volumes



# The MEDARE web portal:

<http://www.omm.urv.cat/MEDARE/>

- A portal linking the MEDARE Community
- Providing information on the MEDARE rationale, background, end goal and objectives, organisation & WGs, activities carried out, documentation from members and linked to related projects and initiatives
- Outcomes from MEDARE workshops
- Giving access to the MEDARE data and metadata portal
- Designed by experts designers and managed/updated by the MEDARE host institution: URV

WMO World Meteorological Organization

WCDMP World Climate Data and Monitoring Programme

WCP World Climate Programme

## WMO MEDARE initiative

The MEDiterranean climate DATA REscue (MEDARE) is an initiative, born under the auspice of the World Meteorological Organization, with the main objective is being to develop, consolidate and progress climate data and metadata rescue activities across the Greater Mediterranean Region (GMR)

[Download MEDARE BROCHURE](#)

Select your language

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[MEDARE poster \(PDF version\)](#)

[Download](#)

### MEDARE 2nd Workshop Proceedings

[Download PDF \(5 MB\)](#)

- ▶ The MEDARE Initiative
- ▶ WORKSHOPS MEDARE
- ▶ MEDARE Data Portal
- ▶ List of stations/records integrating the MEDARE datasets

**New Access to the Metadata is available!**

• Top

# The MEDARE web portal: <http://www.omm.urv.cat/MEDARE/>

**WMO MEDARE initiative**

The Mediterranean climate Data REscue (MEDARE) is an initiative, born under the auspice of the World Meteorological Organization, with the main objective is being to develop, consolidate and progress climate data and metadata rescue activities across the Greater Mediterranean Region (GMR).

- The MEDARE Initiative
  - What is MEDARE?
  - Terms of Reference
  - Rationale and background
  - Goal and objectives
  - The MEDARE community
  - Working Groups
  - Links to related projects and activities
  - Documentation
  - How to join MEDARE Initiative
  - WMO/EC-60, Endorsement to MEDARE

Download HEDARE BROCHURE

Select your language

Download

HEDARE poster (PDF version)

Download

Info on MEDARE

**WMO MEDARE initiative**

The Mediterranean climate Data REscue (MEDARE) is an initiative, born under the auspice of the World Meteorological Organization, with the main objective is being to develop, consolidate and progress climate data and metadata rescue activities across the Greater Mediterranean Region (GMR).

- MEDARE WORKSHOPS
  - Third WMO/MEDARE Expert Group Meeting
    - Outcomes from the third MEDARE meeting
    - Minutes from the third MEDARE meeting
  - Second WMO/MEDARE International Workshop
    - Second WMO/MEDARE International Workshop
    - Outcomes from the second MEDARE workshop
  - First MEDARE Workshop
    - First MEDARE Workshop
    - Outcomes from the first MEDARE workshop

HEDARE poster (PDF version)

Download

Access to WS/meetings

# The MEDARE web portal: <http://www.omm.urv.cat/MEDARE/>

The Mediterranean climate Data Archive (MEDARE) is an initiative, born under the auspices of the World Meteorological Organization, with the main objective is being to develop, compile and progress climate data and metadata rescue activities across the Greater Mediterranean Region (GMR).

### List of stations / Climate records

List of countries that have provided climate time-series to the MEDARE datasets in development, and details on the data provided:

Country	N° Stations	Resolution Time	Climate Variable
Cyprus	2	daily, subdaily	Tx, Tn, RR, Th, RH, WS, WD, SS, PP
Greece	5	monthly	Th, PP, RR
Libya	10	daily	Tx, Tn, RR
Republic of Slovenia	6	daily, subdaily	Tx, Tn, RR, Th, RH, WS, WD, CC
Spain	6, 22	daily	Tx, Tn, RR
Turkey	9	daily	Tx, Tn, PP, RH, SS, RA, CC

Legend: Tx: maximum temperature, Tn: minimum temperature, RR: precipitation, Th: hourly temperature, RH: Relative Humidity, WS: Wind Speed, WD: Wind Direction, SS: sunshine, PP: Sea Level Pressure, CC: cloud cover, RA: radiation

List of stations and climate time-series to be provided by NMHS members to the datasets under development by the WMO MEDARE Initiative:

- Algeria (to be defined by the NMHS)
- Andorra (to be defined by the NMHS)
- Armenia (to be defined by the NMHS)
- Bosnia and Herzegovina (to be defined by the NMHS)
- Bulgaria
- Croatia
- Egypt
- France
- Israel (to be provided by the NMHS)
- Italy (to be defined by the NMHS)
- Jordan (to be defined by the NMHS)
- Lebanon (to be defined by the NMHS)
- Macedonia, FYR
- Malta (to be defined by the NMHS)
- Montenegro (to be defined by the NMHS)
- Morocco
- Republic of Serbia (to be defined by the NMHS)
- Romania
- Syria (to be defined by the NMHS)
- Tunisia (to be defined by the NMHS)

Info on datasets gathered

The web portal is an external branch of the GDR website developed by the MEDARE community and led by the Universitat de València (Terrestrial, Spain)

UNIVERSITAT DE VALÈNCIA

# The MEDARE climate metadata portal

- The MEDARE Metadata portal managed by C3/URV
- Aimed, first, at identifying and gathering metadata of the longest climate records in the Med Basin to get an overview of what climate data is available and, second, as an integrated web portal infrastructure to data entry and access
- Useful for identifying the “TARGET” records to be developed (digitised and homogenised). Vital for the EURO4M effort to set the targets
- Contributed by Med NMHS, but with a significant input from DARE projects (e.g. EURO4M, UERRA) with 35 metadata providers & 376 regular users.
- On-line accessibility (psw protected), but also accessible through Toulouse GISC
- But this only contains METADATA, NO DATA

# The MEDARE climate metadata portal

## WMO MEDARE initiative



user:  
  
password:

[Register Now!](#)

Works with IE 8  
or Mozilla Firefox



Centre for  
Climate Change



UNIVERSITAT  
ROVIRA I VIRGILI

## WMO MEDARE initiative

**Welcome to the website of MEDARE metadata!**

MEDARE portal currently contains metadata about meteorological stations from countries belonging to Great Mediterranean Region (GMR).

The information from this website can be downloaded for non-commercial research and education only

Participation in the MEDARE Metadata base is open to anyone maintaining station data and

# The MEDARE climate metadata portal

wisp.meteo.fr:8080/openwis-user-portal/srv/en/main.home

☆ Google

**METEO FRANCE**  
Toujours un temps d'avance

**GIS METEO FRANCE**  
Global Information System Center for Western Europe

**OpenWIS**

English

### List of variables for each station from Medare

View - Simple



**West bound**  
-5.61000

**East bound**  
41.75860

**South bound**  
30.27360

0.00000, 0.00000

Distribution Information

Transfer options

OnLine resource <http://app.omm.urv.cat/urv/>

Reference System Information

Code WGS 1984

Data quality info

Hierarchy level **Dataset:** Information applies to the dataset

Metadata

File identifier urn:x-wmo:md:int.medare::C3

Metadata language English

Character set **UTF8:** 8-bit variable size UCS Transfer Format, based on ISO/IEC 10646

Date stamp 2012-09-14T12:06:24

**What's New**

■ Draft Stop-Gap metadata generated for

constantia.boroneart

LDZM

# The MEDARE climate metadata portal contents

The screenshot displays the WMO MEDARE metadata portal interface. The top navigation bar includes 'WMO MEDARE initiative' and a search bar. The main content area is divided into two columns. The left column contains a search bar and a list of station codes. The right column shows the 'STATION: Bou Cheqouf' details, including a 'Current Station Details' tab and a 'Station History' tab. The 'Current Station Details' tab is active, showing a form with various fields for station information, including Station Code, Station Name, Latitude, Longitude, Altitude, Country, and Opening/End Dates. The form is partially filled out, and a 'Save' button is visible at the bottom right.

- Metadata entry organised by stations, climatic time-series and stations history
- Remarkable improvement in metadata coverage over southern and south-eastern Mediterranean areas

This screenshot shows a closer view of the 'STATION: Bou Cheqouf' details form. The form is titled 'STATION: Bou Cheqouf' and includes a 'Current Station Details' tab and a 'Station History' tab. The 'Current Station Details' tab is active, showing a form with various fields for station information, including Station Code, Station Name, Type of Station, Opening Date, End Date, Latitude, Longitude, Altitude, and City/Town/Village. The form is partially filled out, and a 'Save' button is visible at the bottom right.

# The MEDARE climate metadata portal contents

- Metadata entry organised by stations, climatic time-series and stations history
- Remarkable improvement in metadata coverage over southern and south-eastern Mediterranean areas

Country name	No. of observing sites in MEDARE	No. of stations at ECA&D
Algeria	190	13
Andorra	7	-
Bulgaria	10	14
Croatia	13	10
Egypt	62	8
France	14	106
Greece	44	30
Israel	15	13
Italy	54	324
Jordan	12	-
Lebanon	3	1
Libya	28	4
Morocco	30	19
FYR of Macedonia	56	3
Slovenia	20	212
Spain	72	122
Tunisia	18	13
Turkey	8	35
Total	656	892

# The MEDARE climate metadata portal: easy access & users

The screenshot shows a web browser window with several tabs open, including 'Traductor de Google', 'Air pollution 'will beco...', 'RealClimate', 'MEDARE', 'Servei Correu Electrò...', 'BBC News - Archbish...', 'Rick's Cafe, Casablan...', and 'BBC News - Science ...'. The main content area is titled 'REQUEST' and contains a 'List of Time Series' section. This section features two dropdown menus: the first lists countries (Israel, Italy, Jordan, Lebanon, Libya, Malta, Montenegro, Morocco) with 'Libya' selected; the second lists climate variables (All Climate Variables....., Maximum Temp, Minimum Temp, Mean Temp, Hourly Temp, Precipitation, Humidity, Air Pressure) with 'Minimum Temp' selected. Below the dropdowns, there is a blue instruction: 'Press the control key to select multiple countries/variables'. Further down, the 'Resolution Time' section has radio buttons for 'Monthly', 'Daily' (selected), and 'Subdaily'. The 'Period' section includes 'FROM' and 'TO' labels followed by input boxes for 'Month Num:' and 'Year:'. The 'Records' section has radio buttons for 'Digitised' (selected), 'Not Digitised', and 'Both'. At the bottom, the 'Select de output' section shows an 'EXCEL' icon.

REQUEST

List of Time Series

Israel  
Italy  
Jordan  
Lebanon  
Libya  
Malta  
Montenegro  
Morocco

All Climate Variables.....  
Maximum Temp  
Minimum Temp  
Mean Temp  
Hourly Temp  
Precipitation  
Humidity  
Air Pressure

Press the control key to select multiple countries/variables

Resolution Time:  
 Monthly  Daily  Subdaily

Period:  
FROM Month Num:  Year:  TO Month Num:  Year:

Records:  
 Digitised  Not Digitised  Both

Select de output:  
  
EXCEL

# The MEDARE climate metadata portal: easy access & users

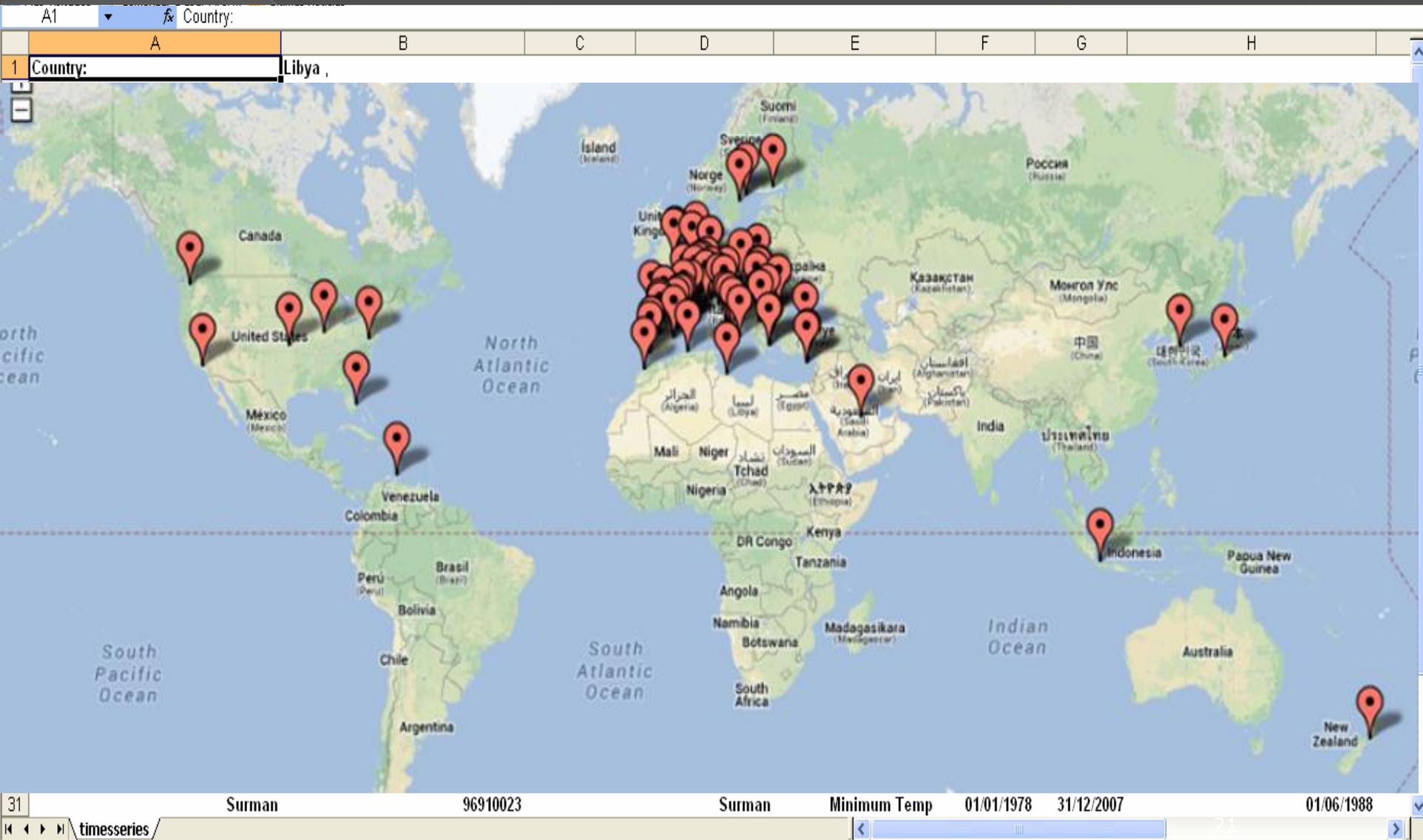
OT (excel: tools\options\international\decimal separator)

Station Code	WMO Code	Station Name	Opening Date	End Date	Data Source/Holder	Latitude	Longitude	Altitude
90005		Biskra, Gémie Militaire	1878.01.01		Algeria: Office National de la Météorologie (www.meteo.dz)	34.8	5.73	82
20611	60390	Dar El Beida	1935.08.01		Algeria: Office National de la Météorologie (www.meteo.dz)	36.68	3.22	25
MED180002		Hôpital Du Day	1878.01.01	1885.12.31	C3 - Centre for Climate Change	36.7833	3.1	22.1
MED170107		Alger, Fort l'Empereur	1878.01.01	1889.12.31	C3 - Centre for Climate Change	36.7833	3.1	223.2
20506		Bouzareah - Observatoire	1909.01.01	1889.12.31	Algeria: Office National de la Météorologie (www.meteo.dz)	36.798	3.035	346
MED170109		Alger, Hotel de Ville	1888.01.01	1919.12.31	C3 - Centre for Climate Change	36.7667	3.1	38.5
30601		Cap Bougarouni	1921.01.01	1919.12.31	Algeria: Office National de la Météorologie (www.meteo.dz)	37.085	6.477	195
20904	60400	Cap Carbon	1910.01.01	1919.12.31	C3 - Centre for Climate Change	36.78	5.11	230
20505		Cap Caxine	1913.01.01	1919.12.31	Algeria: Office National de la Météorologie (www.meteo.dz)	36.813	2.956	27
10203		Aflou Dsa	1874.10.01	1919.12.31	Algeria: Office National de la Météorologie (www.meteo.dz)	34.124	2.08	1460
100305		Oued Athmania	1899.04.01	1973.01.01	Algeria: Office National de la Météorologie (www.meteo.dz)	36.244	6.288	634
30220		Kherrata P&C	1899.01.01	1973.01.01	C3 - Centre for Climate Change	36.495	5.28	870
100510		El Khroub	1899.05.01	1975.12.31	Algeria: Office National de la Météorologie (www.meteo.dz)	36.265	6.695	620
100604		Zighout Youcef (Coude Smendou)	1899.04.01	1979.12.31	Algeria: Office National de la Météorologie (www.meteo.dz)	36.535	6.716	570
MED170003		Fort National	1879.01.01	1961.12.31	C3 - Centre for Climate Change	36.38	0	916.3
100530		Sigus D.A.S	1899.04.01	1961.12.31	Algeria: Office National de la Météorologie (www.meteo.dz)	36.125	6.79	770
MED190113	60545	Laghouat-Airport	1878.01.01	1961.12.31	C3 - Centre for Climate Change	33.8	2.85	770
24300		El Kherroub	1880.01.01	1861.12.31	C3 - Centre for Climate Change	35.200	5.710	540

# The MEDARE climate metadata portal: easy access & users

A1 Country:		B	C	D	E	F	G	H	
1	Country:	Libya							
2	Climate Variables:	Maximum Temp , Minimum Temp ,							
3	Resolution Time:	Daily							
4	Period:	All							
5	Digitised Record:	YES							
6	Country/City/Town/Village	Station Code	WMO Code	Station Name	Climate Variable	Start Date	End Date	Missing Period Start Date	Missing Period End Date
7	Libya								
8	Zwara	96910002	62007	Zwara	Maximum Temp	01/01/1956	31/12/2007		
9	Zwara	96910002	62007	Zwara	Minimum Temp	01/01/1956	31/12/2007		
10	Nalut	96930001	62002	Nalut	Maximum Temp	01/06/1955	31/12/2007		01/05/1989
11	Nalut	96930001	62002	Nalut	Minimum Temp	01/06/1955	31/12/2007		01/05/1989
12	Tripoli	96920004	62010	Tripoli Airport	Maximum Temp	01/01/1956	31/12/2007		
13	Tripoli	96920004	62010	Tripoli Airport	Minimum Temp	01/01/1956	31/12/2007		
14	Misurata	96910006	62016	Misurata	Maximum Temp	01/01/1957	31/12/2007		01/08/1978
15	Misurata	96910006	62016	Misurata	Minimum Temp	01/01/1957	31/12/2007		01/08/1978
16	Sirte	96910007	62019	Sirte	Maximum Temp	01/01/1956	31/12/2007		
17	Sirte	96910007	62019	Sirte	Minimum Temp	01/01/1956	31/12/2007		
18	Bengazi	96910008	62053	Benina	Maximum Temp	01/01/1956	31/12/2007		01/04/1987
19	Bengazi	96910008	62053	Benina	Minimum Temp	01/01/1956	31/12/2007		01/04/1987
20	Agedabia	96910009	62055	Agedabia	Maximum Temp	01/01/1956	31/12/2007		01/11/1967
21	Agedabia	96910009	62055	Agedabia	Minimum Temp	01/01/1956	31/12/2007		01/11/1967
22	Cirene	96930010	62056	Shahat	Maximum Temp	01/01/1956	31/12/2007		01/09/1995
23	Cirene	96930010	62056	Shahat	Minimum Temp	01/01/1956	31/12/2007		01/09/1995
24	Derna	96930011	62059	Derna	Maximum Temp	01/01/1956	31/12/2007		
25	Derna	96930011	62059	Derna	Minimum Temp	01/01/1956	31/12/2007		
26	Tubruk	96910012	62062	Tubruk	Maximum Temp	01/08/1984	31/12/2007		01/01/1984
27	Tubruk	96910012	62062	Tubruk	Minimum Temp	01/08/1984	31/12/2007		
28	Hon	96950016	62131	Hon	Maximum Temp	01/01/1956	31/12/2007		01/03/1995
29	Hon	96950016	62131	Hon	Minimum Temp	01/01/1956	31/12/2007		01/03/1995
30	Surman	96910023		Surman	Maximum Temp	01/01/1978	31/12/2007		01/06/1988
31	Surman	96910023		Surman	Minimum Temp	01/01/1978	31/12/2007		01/06/1988

# The MEDARE climate metadata portal: easy access & users



# The MEDARE climate datasets under development

Country name	No. stations with monthly data & variables acronyms	No. stations with daily data & variables acronyms	No. stations with sub-daily data & variables acronyms
Armenia	9: Tx, Tn, Tm, RR		
Cyprus		2: Tx, Tn, RR	1: TT, RH, WS/WD, SLP, SS
France		10: Tx, Tn, RR	
Greece	5: Tx, Tn, Tm, SLP, RR		
Libya		13: Tx, Tn, RR	
Romania		23: Tx, Tn, RR	
Slovenia		6: Tx, Tn, RR	6: TT, RH, WS/WD, CC
Spain		22 with Tx, Tn; and 66 with RR	
Turkey		9: Tx, Tn, RR, SLP, HR, RA, SS, CC	
Egypt	5: hourly TT, SLP, RH + 9: RR, Tx/Tn		
Miscellaneous	70 North African and Middle East locations with daily Tx, Tn; 76 locations with daily RR and 33 locations with hourly SLP		

# Lessons learnt from MEDARE of potential interest to INDARE

- MEDARE has liaised operational and research worlds under a common objective: to enhance quality climate data availability in the Mediterranean through digitisation and the development of high-quality datasets
- MEDARE multi-approach to enhance climate data availability and foster DARE projects by using all the opportunities and resources available at the national, regional and international scales
- MEDARE seeks wins/wins among its members and tries to involve and engage all of them in the decisions to take and tasks to carry out
- Need to identify a supportive host institution and active volunteers to steer the initiative and inspire active involvement of others
- MEDARE prudent approach to data access to overcome reticence on data sharing: placing the focus on accessing to a reasonable number of records from NMHS

THANK YOU FOR  
YOUR ATTENTION